

No. 668,735.

Patented Feb. 26, 1901.

M. F. HUTCHISON.
ROLLER SCREEN.

(Application filed June 20, 1900.)

(No Model.)

2 Sheets—Sheet 1.

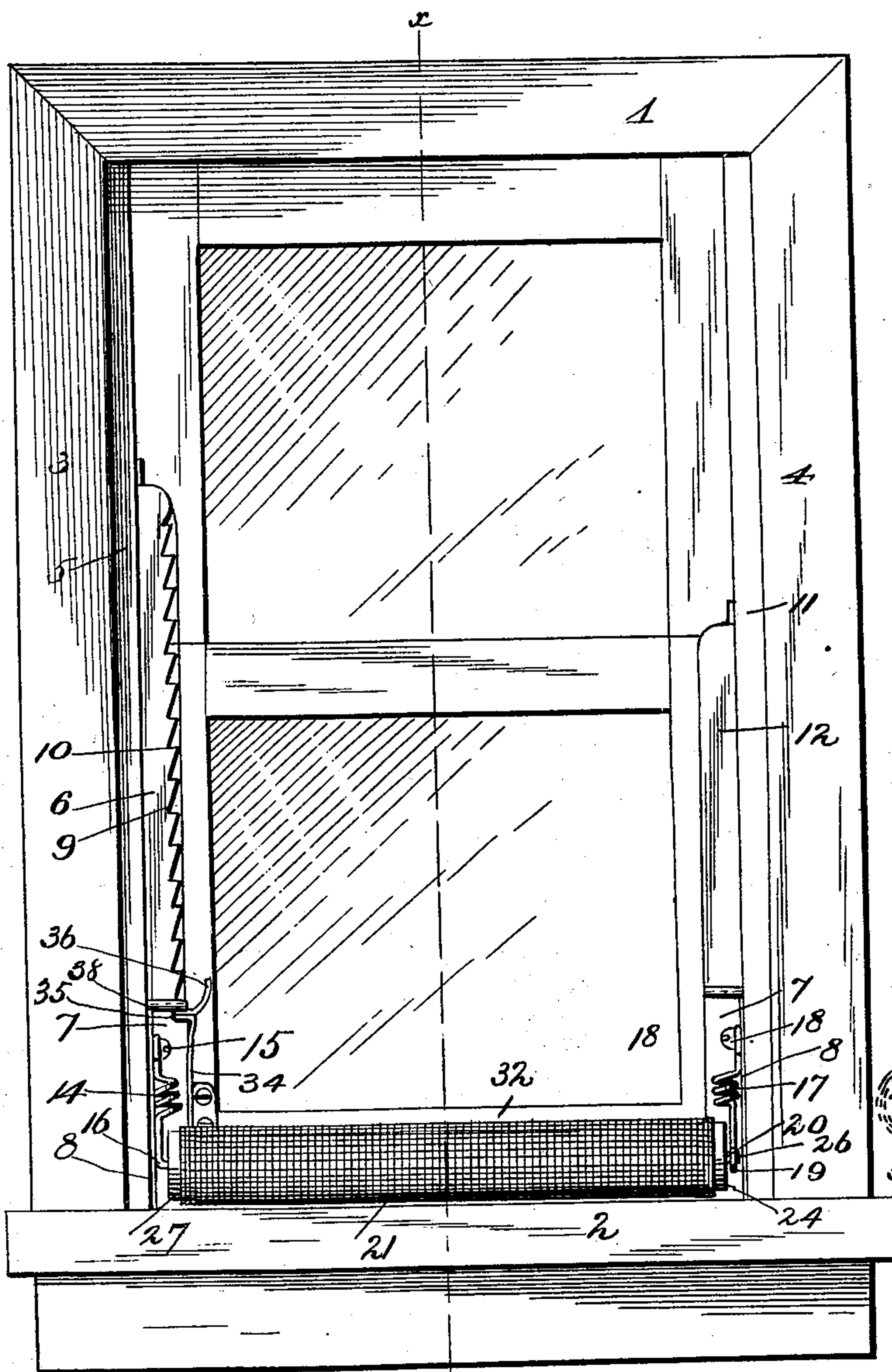


Fig. 1

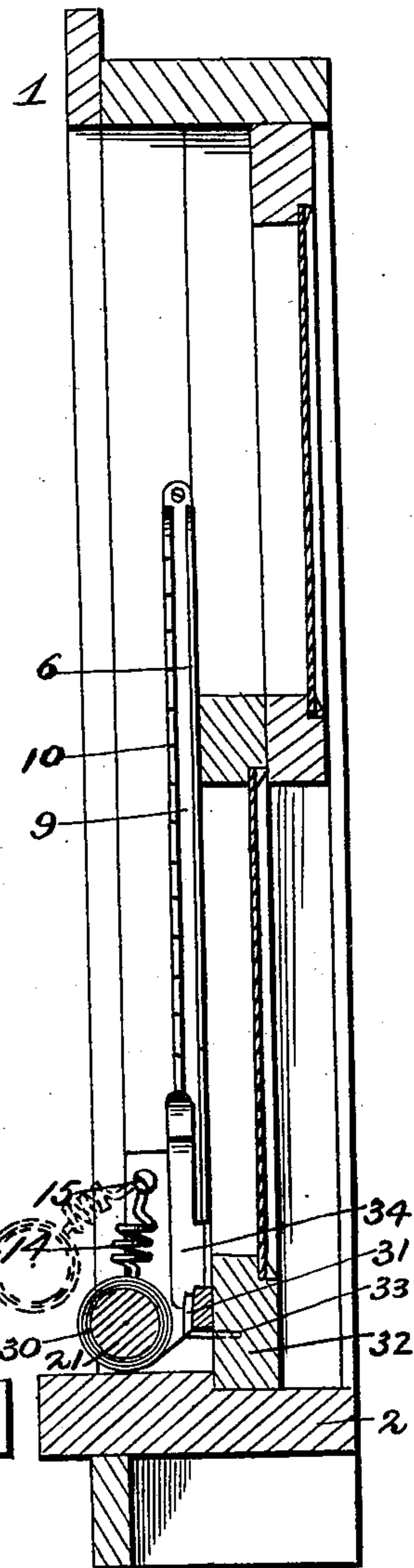


Fig. 3.

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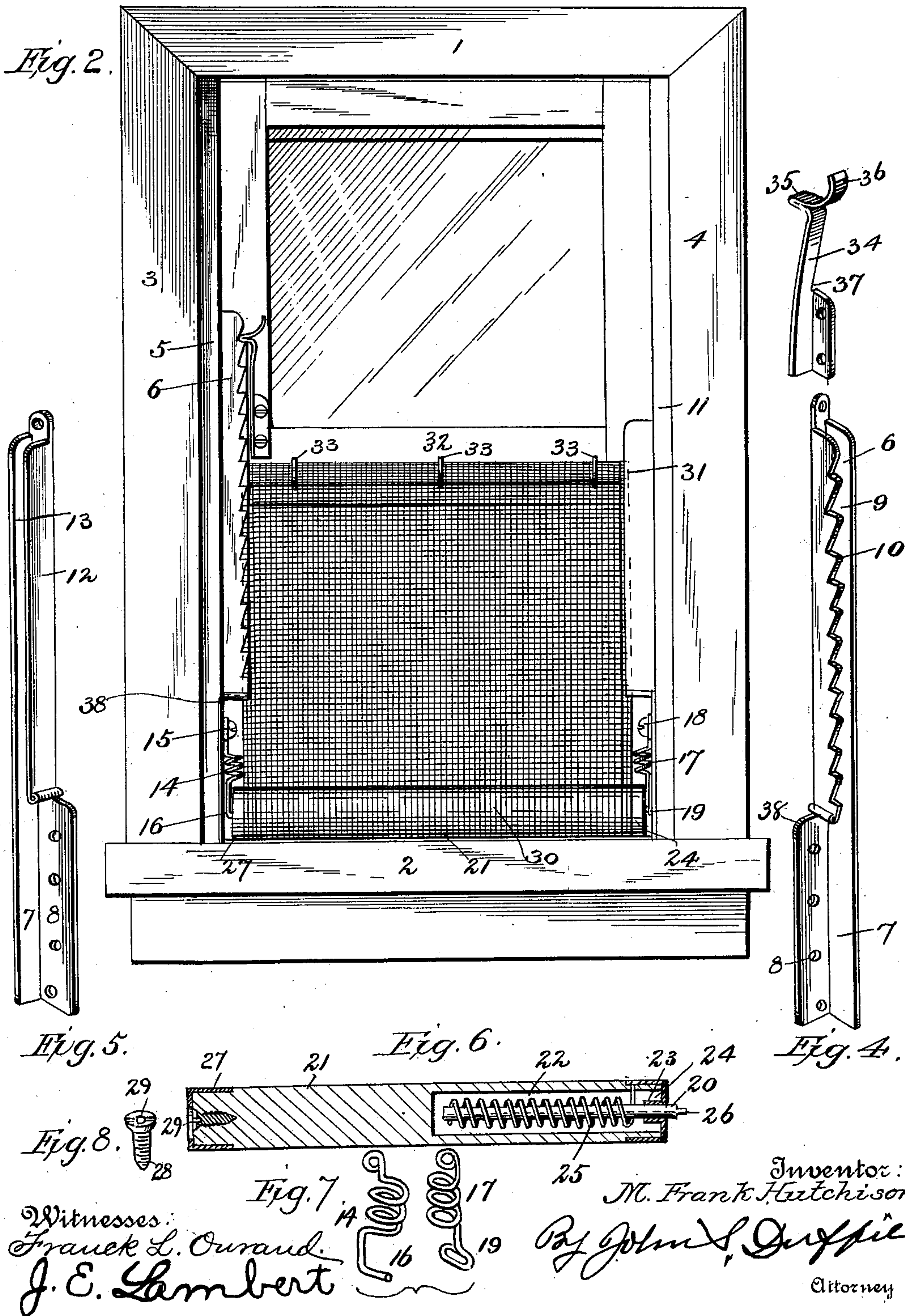
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2 Sheets—Sheet 2.



UNITED STATES PATENT OFFICE.

MAURICE FRANK HUTCHISON, OF FLORIS, VIRGINIA, ASSIGNOR OF ONE-HALF TO RUDOLPH CHARLES EICHBERG, OF VIENNA, VIRGINIA.

ROLLER-SCREEN.

SPECIFICATION forming part of Letters Patent No. 668,735, dated February 26, 1901.

Application filed June 20, 1900. Serial No. 20,982. (No model.)

To all whom it may concern:

Be it known that I, MAURICE FRANK HUTCHISON, a citizen of the United States, residing at Floris, in the county of Fairfax and State of Virginia, have invented certain new and useful Improvements in Roller-Screens; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention is a window-screen attachment for windows.

The invention is known and described under the head of "automatic roller-screen attachments," and it consists of an automatically-actuated roller having one end of a screen attached thereto, with the other end attached to the lower part of the lower sash, with guides, springs, lock, and lock-bars hereinafter described.

In the accompanying drawings, Figure 1 is a face view of a window with my invention attached, the sash being down and the screen wound upon the roller. Fig. 2 is a face view of the same with the sash raised and the screen unwound. Fig. 3 is a vertical cross-sectional view of Fig. 1 upon the line X X. Fig. 4 is a perspective view of the combined screen-guide and lock-bar and the lock. Fig. 5 is a perspective view of the other screen-guide. Fig. 6 is a sectional view of the roller and its details. Fig. 7 is a view of the coiled arms by which the roller is attached to the faces of the side pieces of the frame. Fig. 8 is a perspective view of a perforated screw.

My invention is described as follows:

1 represents the headpiece of the frame; 2, the sill; 3, the left-hand side piece, and 4 the right-hand side piece of the frame.

The frame is made in the ordinary way, and I do not claim anything new in the frame itself.

To the inner face of the guide-strip 5 of the frame is secured a combination screen-guide and lock-bar 6. This combination guide and lock-bar consists of a lower angle part 7 and 8 and an upper part formed into a trough 9, one side of which is notched, forming rests 10. The part 8 is perforated and secured to the lower part of the guide-strip 5 and acts as a

facing, the purpose of which is hereinafter described.

To the inner face of the right-hand guide-strip 11 of the frame is secured a screen-guide 12, the lower part of which, 7 and 8, exactly corresponds to the lower part of the screen-guide and lock-bar 6, the upper part being formed into a trough 13. To the inner face of the flange 8 of the combination screen-guide and lock-bar 6 is pivoted the upper end of a coil-spring arm 14, the upper end of which is formed into an eye that fits around the neck of a screw 15, the middle of this arm being converted into a coil-spring, the free end terminating in a point 16 at right angles to the body of the frame.

To the flange 8 of the guide 12 is pivoted an arm 17, the upper end of which is formed into an eye and fits around the neck of a screw 18, the middle part being formed into a coil-spring and the free end formed into an oblong loop 19. This loop may, however, be square or triangular, as the purpose of it is to hold the end of a rod 20 from turning.

Extending across the bottom of the window-frame is a roller 21, one end of which is provided with a hollow 22, and journaled in a bearing 23, secured to or integral with the cap 24, is a rod 20, which extends into the roller the full length of the hollow. Secured to this rod and to the roller is a spiral spring 25, which actuates the roller, while the rod itself is held permanently in one position by means of its protruding neck 26, which enters the oblong opening 19 of the arm 17. On the opposite end of this roller 21 is secured another cap 27. The head of this cap is perforated, and through this perforation and into the end of the roller works a screw 28. This screw is provided with a longitudinal opening and acts as a bearing for the point 16 of the arm 14.

To the roller 21 is secured the lower end of a netting 30, the upper end of which is secured to a rod or bar 31, and this rod or bar is secured to the lower face of the lower sash 32 by means of right-angle screws 33 or any other substantial means, provided such means be such that said bar may be quickly attached or removed. The arms 14 and 17 are so bent

that in addition to holding the roller down against the base 2 they also press inwardly, so as not to slip out of the bearing 28 or off of the neck 26. It is not essential that the 5 spring in the arms 14 and 17 should be a coil-spring. Any other shape of spring that will answer the purpose may be used.

One of the objects of the flanges 8 of the screen-guides 6 and 12 is to form facings for 10 the strip-guides of the window to keep the facings from being worn by the action of the arms as they are swung out or in. The dotted lines as shown in Fig. 3 represent the roller swung out from the frame.

15 The rod 20 is so secured to the spring 25 that its tendency is to protrude from the end of the roller, so that it will constantly keep its neck 26 in the opening 19.

To the left-hand piece of the sash-frame is 20 secured a spring-lock 34, having an extension 35 and thumb-piece 36. The recess 37 is to enable the lock to escape the inner wall of the combination screen-guide and lock-bar. This extension 35 rests on rests 10. Conse- 25 quently the lower sash may be elevated and locked to any distance within the length of the lock-bar, and at the lower end of the lock-bar is a set-off or recess, leaving a shoulder 38, under which the upper face of said ex- 30 tension 35 of the lock 34 rests when the sash is completely down, thus forming a substantial and safe night-lock. The roller 21 and the attachments herein described may be se- 35 cured to the upper part of the window in the same manner as they are secured to the lower part, so that when the upper sash is pulled down the screen will follow the sash and ven- tilation will be given above the same as ven- 40 tilation is given below when the lower sash is pushed up.

When the screen is made of metal or other material likely to scratch the lower and up- per sills, I line the faces of said sills with a 45 suitable material to prevent such scratchings or defacings. It will be observed that when the lower sash is raised the screen will follow the sash and unroll from the roller. When the sash is let down, the actuating-spring re- 50 volves the roller and the screen is wound thereon.

When I wish to clean the lower part of the window or open the blinds or shut the same or do anything of that kind, I take 55 hold of the roller and pull it out from the frame, as shown by the dotted lines in Fig. 3. When the roller is pushed back in place, the spring portions of the arms 14 and 17 keep the roller down tightly against the up- per faces of the base-sill 2, and thus mosqui- 60 toes, flies, bugs, or anything of the kind are prevented from getting into the room at that point. The edges of the screen also extend into the trough part of the guides 6 and 12,

and thus such insects are prevented from get- 65 ting into the room in this direction, and as the top part of the screen is securely fastened to the lower part of the lower sash insects are prevented from getting into the room from 70 that direction. The conditions are exactly the same when the screen and the attach- ments are secured to the upper part of the window.

The objects of the peculiar formation and combination of the mechanism of this win- 75 dow attachment are that the roller may be swung out and back at pleasure and that the whole screen may be taken off or put on quickly and conveniently. For instance, the roller may be swung out and detached from 80 the arms 14 and 17 and the upper end de- tached from the lower sash, and when desired the screen and roller may be reattached as readily as it had been detached.

I claim—

1. In a window the combination of a spring- 85 actuated roller; a screen having one end at- tached to the roller and the other end at- tached to one of the sashes; screen-guides se- cured to the inner faces of the guide-strips, each of said guides having a part acting as 90 facings to said guide-strips; spring-arms hav- ing journaled to their lower ends said roller, their upper ends pivoted to the faces of said facings; a rack-bar, provided at its lower end with a shoulder, secured to said guide-strips; 95 a lock secured to one of the sashes and adapt- ed to catch in the notches of the ratchet-bar, and under the shoulder, acting in the last in- stance as a night-lock; the lower ends of said arms adapted to be swung in and out from 100 the window-frame, and to carry with them the roller and the lower end of the screen, substantially as shown and described and for the purposes set forth.

2. In a window the combination of a spring- 105 actuated roller; a screen having one end at- tached to the roller and the other attached to one of the sashes; screen-guides secured to the inner faces of the guide-strips; spring- arms having journaled to their lower ends 110 said roller, their upper ends pivoted to the faces of said facings; a rack-bar secured to one of said guide-strips; a lock secured to one of the sashes and adapted to catch in the notches of the ratchet-bar; the lower ends of 115 said arms adapted to be swung in and out from the window-frame, and to carry with them the roller and the lower end of the screen, substantially as shown and described and for the purposes set forth. 120

In testimony whereof I affix my signature in presence of two witnesses.

MAURICE FRANK HUTCHISON.

Witnesses:

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R. TERRY.